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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,173	04/04/2005	Kozo Ide	Q87280	5557
23373	7590	12/30/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			RO, BENTSU	
			ART UNIT	PAPER NUMBER
			2837	

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/530,173

Applicant(s)

IDE ET AL.

Examiner

Bentsu Ro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/4/05</u> | 6) <input type="checkbox"/> Other: ____  |

## FIRST OFFICE ACTION

1. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 6, 7, 8, 9, 11 and 12, each claim contains the phrase "such as" twice (two occurrences). It is noted that the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claims 2 and 3, the phrase "the axis" is unclear. Applicant must specify which axis is "the axis". For example:

Claim 2, line 10, change "the axis" to --the  $\alpha$ -axis--. Line 16, change "the axis" to --the  $\beta$ -axis--.

Claim 3, line 10, change the phrase "intersecting the axis at 90 deg." to -- intersecting the  $\alpha$ -axis at 90 deg.--. Line 14, change "an axis intersecting the axis at 90 deg. is  $\delta$ -axis;" to --an axis intersecting the  $\gamma$ -axis at 90 deg. is  $\delta$ -axis;--. Line 21, change "an axis intersecting the axis at 90 deg." to -- an axis intersecting the  $\delta$ -axis at 90 deg.--.

2. Drawing correction is required.

- In Figs. 1 and 4, the function of each box should be labeled. For example, label Fig. 1, box 1-8 as "current detector"; label box 1-5 as "2-to-3 phase converter";

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label box 1-4 as "3-to-2 phase converter". Fig. 4 label box 1-3-1 as "carrier signal generator"; box 1-3-3 as "timer"; etc. If box is too small, the legend can be placed outside the box.

- Label Fig. 6 as "prior art".

The drawings are informal. **Formal drawing are now required.**

3. The subject matters of claims 1-20 must be kept unchanged. If the subject matters of claims 1-20 are changed, then the specification must be amended to reflect the change in the subject matter of each of claims 1-20 because the specification specifically points out the subject matters of each of claims 1-20. See each paragraph in the specification pages 3-8 for the claimed subject matters.

4. Claims 1-20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

5. The following is a statement of reasons for the indication of allowable subject matter: No prior art teaches a motor rotor position estimation based on the extracted high frequency current component of the PWM carrier frequency by using a switching means and a magnetic pole position estimation means, see applicant's Fig. 4.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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7. Any inquiry concerning this communication should be directed to Bentsu Ro at telephone number 571 272-2072.

12/28/2005

  
Bentsu Ro  
Senior Examiner  
Art Unit 2837